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From Traditional to Digital: A Study on Business Models in The Context of Digitalization

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Abstract

Living digitalized times is a challenge not only for the individuals but also for businesses. As people tend to think that robots will slowly replace their activity, it's important to consider this mindset and implement measures to alleviate this mentality. In these times, being a laggard on new trends is very likely to affect business performance, taking into account also specific market competition. Organizations worldwide are gradually adapting their strategies based on different types of business models, adapted to their specific objectives and field of activity. The business model denotes a concept of organization and functioning which is aimed to assure the proper functioning of the organization, taking into account the numerous specific influence factors: environment, competition, technology, mission and vision.

The aim of this study is to identify the impact of technology and digitalization on business models and to analyse the strengths and weaknesses of the traditional manner of business model implementation in an organization as compared to the digital-focused approach. Moreover, observing the European trends on digital transformation of business, new approaches introduced by technology and strategies on digitalization would represent a point of interest for future studies on this subject.

For this purpose, taking into consideration other authors opinion on this, an outline of the existing literature on this subject will be performed.

Keywords: Business models, digital business, digital transformation, digital Europe, agile methodology.

JEL Classification: O3

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1. Introduction

Keeping up with the latest changes brought by digitization and technology is no longer a fad, but a necessity. Given that, for example, customers have unlimited internet connection and by a single touch they can identify hotels, restaurants, better prices for goods and services, the pressure on businesses to successfully compete on the market becomes increasingly challenging.

Over the last years, digitization introduced entirely new business models and implicitly new competition in otherwise very traditional sectors. According to Chakravorti et al. (2019), "digital businesses" are the ones that have a digital platform (e.g. e-commerce platforms, digital media, sharing economy platforms, online freelance) as core to its business model. Based on researches made by Wlömert and Papies (2016), Spotify tends to completely change the music industry, as well as Netflix and other live-streaming movie services are challenging the classic TV industry (Ansari et al., 2016). Similarly, Airbnb is strongly competing with the hotel industry by making almost any home a potential tourist accommodation while the expansion of Uber and other ride-sharing services leads to taxi-drivers protests around the world. Each of these companies have different approaches of business models: subscription business model, multi-sided marketplace model or platform-based model. In the existing literature, limited focus was put on the digitization of business models, but rather on their conceptualization, redesign or operationalization (Foss & Saebi, 2016). Considered by Verhoef et al. (2019), the digital transformation combines several branches of learning such as marketing, management approach, supply chain and information technology. Team leaders need to focus their attention on understanding how technology can increase the processes quality, efficacy and efficiency and how employees can be persuaded to become resources of digital implementation – by building a knowledge base. Leonardus and Sasmoko (2019) underline also the importance of the role of leaders in order to develop an innovative business model, in order to become digital leaders. A digital leader means combining the leadership style of a transformational leader with the embedding of digital technology (Leonardus & Sasmoko, 2019).

Therefore, the digital transformation has become an important factor for the business environment. The following chart (Figure 1) shows the progress of the EU Member States as regards the overall level of digitalization of the economy and society over the last 5 years. It is measured in terms of the progression of their Digital Economy and Society Index (DESI) score over that period of time.

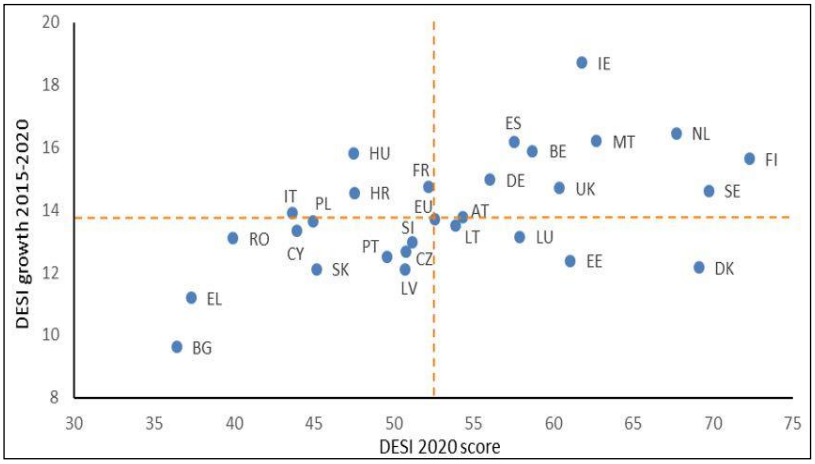

Figure 1. Digital Economy and Society Index – Member States' progress, 2015-2020
Source: Digital Economy and Society Index (DESI) 2020 Questions and Answers

The DESI is composed of five main policy areas, which group 37 indicators overall, as we can observe in Table 1:

Table 1. DESI policy areas

Policy area	Requirements
1. Connectivity	Fixed broadband take-up, fixed broadband coverage, mobile broadband and broadband prices
2. Human capital	Internet user skills and advanced skills
3. Use of internet	Citizens' use of internet services and online transactions
4. Integration of digital technology	Business digitization and e-commerce
5. Digital public services	e-Government

Source: Digital Economy and Society Index (DESI) 2020 Questions and Answers

Nowadays, organizations are strongly focused on the continuous improvement of internal relationships between departments, including with the IT department, the importance of which grew steadily over the last years, as evidenced by the increasing number of CTO (Chief Technology Officer) and CIO (Chief Information Officer) positions in large companies as well as by the increased focus on innovative IT solutions, as evidenced especially in Romania by the increased contribution of

IT companies to national GDP and the significant increase in overall compensation schemes for IT specialists.

Thus, as the IT department shifts from a more technical support role to a business process re-engineering and optimization function, companies also focus on improving the interaction between the technical development team and the process-oriented employees as a means to add business value, which will lead to a minimization of errors with the aid of technology.

Besides the environment the factors also change, and the business model has a crucial role on economic efficiency and effectiveness (Afuah & Tucci, 2001). In the existing literature, there are many types of business innovation models used by organizations, though they are not necessarily adapted to the latest digitalization context but are perfect suitable for digitalization, such as Sustainable Business Model Innovation (Young & Reeves, 2020) or Cambridge Business Model Innovation (Geissdoerfer et al., 2017). Of course, there is no general business model to be considered as the best version, given that it relies on the company's strategy, objectives and operating context (Pateli & Giaglis, 2003).

The process of digital transformation assumes the digitization of business models and new approaches on business processes, as compared to the digital technologies which are effectively introducing the artificial intelligence, IoT, 3D printing, cyber security, automation and so on. However, this process of digitization in an organization requires resources, and for this, a transparent communication between the leaders and the employees is mandatory, the main goal being that the strategy adopted has to be clear for everyone. According to Grab et al. (2019), self-managed teams could be used in order to foster digital transformation and digitization. In their research, Marquardt et al. (2018) identified that the most important obstacle in digitalization implementation is concerning human resource factors, in terms of IT skills of employees and specialist's availability. Nowadays, one project and task management methodology increasingly adopted by companies is Agile, taking into account that the external digitization context is rapidly evolving, so therefore the strategy of the company must be in line with the expectations faster, by a modern approach which will finally lead to benefits for all parts involved. Thus, adopting an agile mentality means to sum up the iterative part (not trying to get it all right from the beginning) and the incremental part (not building all at once). According to Ricci (n.d.), Agile digital transformation empowers companies to launch, learn, and re-launch digital initiatives, reacting properly to changing market context and customer needs. In order to adapt the organization's strategy to the agile scaling, the focus should be on transforming an agile team to an agile enterprise, by following the strategy through execution, as follows: shared vision, transparency and fast feedback, alignment and clear priorities, organizational learning and leadership development.

2. Problem Statement

As nowadays technology passed to the next step, meaning implementation, execution and improvement, every organization should take into consideration the

implementation of a digitalized business model (BM), which must be built on its own objectives and internal values. In the existing literature, there are several general opinions regarding a business model: in Timmers' research (1998), the business model has the role of explaining the logic of getting business done for an organization and as considered by Nilsson et al. (1999), the business model represents the relationship between information security systems, strategy and business processes. One of the main standards in the business model research area was introduced by Osterwalder & Pigneur (2010) who defined the business model as the key for an organization to create, deliver and capture value.

<table>
<tr><td rowspan="2">Key partners</td><td>Key activities</td><td rowspan="2">Value proposition</td><td>Customer relationship</td><td rowspan="2">Customer segments</td></tr>
<tr><td>Key ressources</td><td>Channels</td></tr>
<tr><td colspan="3">Cost stucture</td><td colspan="2">Revenue streams</td></tr>
</table>

Figure 2. Business model Canvas

Source: elaborated by the authors based on the research of Genzorova et al. (2019)

In Figure 3 we can observe the 9 parts composing the traditional business model Canvas, which are supposed to express the method for generating profit in an organization. Beside the fact that it explains in more detail the parts which are involved in this process, Canvanizer (2019) confirms that this business model is part of the entrepreneurship strategy, by creating, maintaining and keeping the most important values for the organization and the customer. Nevertheless, it is considered that the human resource still represents the central point of the implementation of digitization in a company, and the company should first think to digitalize the workplace in order to subsequently digitalize the process as well.

After a while, Ash Maurya (2012) adapted this model to the Lean Methodology, having as a central point the suitability of the product on the market, in order to support the entrepreneurial side of the business (Alami, 2016).

<table>
<tr><td rowspan="2">Problem</td><td>Solution</td><td>Unique value proposition</td><td>Unfair advantage</td><td rowspan="2">Customer segments</td></tr>
<tr><td>Key metrics</td><td></td><td>Channels</td></tr>
<tr><td colspan="3">Cost structure</td><td colspan="2">Revenue streams</td></tr>
</table>

Figure 3. Lean Canvas

Source: elaborated by the authors based on the research of Gierej (2017)

In Figure 3 we can observe the Lean Canvas proposal, which more adequately fits the needs of entrepreneurs: first identify the problem, then focus on a customer segment in order to validate preliminary hypotheses. Then, develop a unique value proposition adapted to the problem and begin to work on a solution. Ash Maurya

(2012) justified this concept as it seems that most entrepreneurial businesses fail because they don't check the clients' needs before anything else.

In terms of the public sector, the latest vision for the European Union is to focus on innovation and digital technologies as a means to achieve a better society as a whole, meaning improved health, better public services, more value-adding and better paid employment opportunities, etc. (according DigitalEurope, 2020). In order for this vision to be achieved, there are five key points which need to be improved in terms of the public sector institutions and as well by government and business leaders: framework for a European digital transformation of industry, open markets and fair global competition, crucial aspects of digital transformation, upscaling SMEs and upskilling the workforce and sustainability goals to drive industrial leadership. Regarding the framework, the main focus areas of the European Union should be as follows: health, manufacturing, connectivity and environment. For the open markets, the policies should have a relationship of reciprocity and should align digital standards and rules at global level. The crucial aspects to be improved would be: the research area, the artificial intelligence and the emerging technologies, 5G infrastructure, cyber-security in Europe and a European data economy. As the SMEs are considered as one of the main forces of the European economy, it is important for employees to participate in several research programs so that they can improve their skills and encourage collaboration between SMEs. Finally, sustainability should represent a key factor in the innovation project, by providing funds for developing technologies having as objective the decarbonization and the round economy (DigitalEurope, 2020).

3. Research Questions/Aims of the research

The aim of the study is to analyse the possibility of implementation of a digitalized business model in an organization and digitization's effects on existing traditional business models. As the digitization phenomena is very complex, business models must be adapted to the change, therefore an analysis based on the development of a digitalized version of business model can improve the quality of future researches on this topic.

4. Research Methods

Since this paper represents an outcome of an early PhD research, the methodology chosen was to examine other similar researches in the literature of the business models, new technologies that are influencing organizations' strategies and digital transformations in general. This will help us to obtain an overall view on the impact of technology on today's business market and on the process of digitization. By analysing the available literature, focus will be placed on the concept of Business Model Canvas by Osterwalder & Pigneur (2010) and the adjusted Lean Canvas Model by Ash Maurya (2012). Considering that both models are not fully adapted to the current digital-focused environment, we will try to identify the strengths and

weaknesses of both models and adjust them to better fit to a digitalized business model.

5. Findings

In order to have a better view on the impact of technology and digitization on business' strategies and on the challenges brought by innovation, 100 documents from the scientific literature were examined in order to respond to our research questions. Their interpretations and results will be presented below in a descriptive manner. The focus was set on identifying the strengths and weaknesses of traditional BM (Business model Canvas and Lean Canvas model) and then on some suggestions on digitization of business models. While Tapscott et al. (2000) were highly involved in describing the importance of development of a new business model based on a new structure, Linder and Cantrell (2000) developed a general framework but only based on a specific identification of factors. A few years later, in her study. Gierej (2017) managed to identify the main strengths and weaknesses of Business Model Canvas and Lean Canvas Model, as described and adapted in Table 2.

Table 2. Strength and weaknesses of BMC and LCM

BM type	Strengths	Weaknesses
BMC	- clarity - universality - the value proposition is the main point of the model	- lack of feedback mechanism - not adapted to the continuous changing solutions - lack of dynamism
LCM	- clarity - traditional logic 'problem-solution' used - flexibility and focus on human-client relationship	- the problem is the main point of the model - the innovations are too radical - creativity not encouraged

Source: adapted from Gierej (2017), p. 5

To support the existing business models in keeping up with the changes imposed by digitization, Saint-Joan (2018) considers that two other key points must be introduced besides the customer, the offer, the finance and the infrastructure: the data and the experience. Introducing the recoverable data in the centre of the business model allows having a business-relevant overview of customers' company-related experience as basis for organizational improvement. Finally, we should understand that the continuous improvement in an organization is very important and before trying to digitalize its business model, the impact of data and experience should be analysed on every existing dimension.

6. Conclusions

Implementing digitization in organizations may be really challenging, and this is why small steps should be taken in order to reach the final objective. Starting from small activities, followed by a good knowledge base and inclusion of employees may be a gradual step-by-step approach towards a successful result. There are many requirements (such as standardization, improved business models, financial investments in research, legal frameworks), risks and time associated with the implementation of innovation in an organization, but there are multiple benefits if it is properly performed, such as: smart services, real-time capability and modularity. We suggest that organizations should adapt to the current technology changes and exploit related opportunities by reorganizing their business model based on the initial objectives.

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